SUPPLEMENTARY MATERIAL

3D-Printable Biodegradable Polyester Tissue Scaffolds for Cell Adhesion

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Supplementary Figure 1. $^1$H NMR structure confirmation for (a) poly(tri(ethylene glycol) adipate)) (PTEGA) dimethacrylate and (b) PTEGA diol, overlayed with (c) decarboxylated functionalization reactant 2-aminoethyl methacrylate.
Supplementary Figure 2. $^{13}$C NMR structure confirmation for (a) poly(triethylene glycol adipate)) (PTEGA) dimethacrylate and (b) PTEGA diol, overlayed with (c) decarboxylated functionalization reactant 2-aminoethyl methacrylate.
Supplementary Figure 3. $^1$H NMR spectra and peak integrations used for molecular weight determination ($M_n$) of (a) poly(tri(ethylene glycol) adipate)) (PTEGA) diol and (b) PTEGA dimethacrylate. (c) Differential Scanning Calorimetry (DSC) trace showing the PTEGA dimethacrylate glass transition temperature.

$^1$H NMR endgroup analysis provided the number average molecular weight ($M_n$) of the poly(tri(ethylene glycol) adipate)) (PTEGA) diol precursor. These calculations are as follows:

$$\frac{\int H + \int I + \int J}{\int G} = \frac{12n + 12}{4n} = \frac{4.32 + 10.41}{4.00} \Rightarrow n = 4.40$$

Repeat unit = 260.3 g/mol
Endgroups = 150.2 g/mol
PTEGA diol $M_n$ = 1,296 g/mol
Based on the above PTEGA diol integrations for F and degree of polymerization n, the PTEGA dimethacrylate F peak was set to \( F = 4.16 \times 4.40 = 18.30. \) Then, % methacrylate termination was based on the actual A integration value over the theoretical 6.00 integration value. Accounting for the methacrylate endgroups afforded the PTEGA dimethacrylate \( M_n. \)

\[
\% \text{ methacrylate termination} = \frac{5.90}{6.00} = 98 \%
\]

\( M_n \) of the PTEGA dimethacrylate can be estimated by adding the theoretical molecular weight of the 2-isocyanatoethyl methacrylate to the PTEGA diol molecular weight and accounting for the % methacrylate termination, as was calculated above.

\[
PTEGA \text{ dimethacrylate } M_n = 1,296 + (155.15 \times 2) \times 0.98
\]

\[
PTEGA \text{ dimethacrylate } M_n = 1,600 \text{ g/mol}
\]
**Supporting Figure 4.** Tukey’s Honest Significant Difference (HSD) test for statistical significance. As shown, the three populations are not connected by the same letter and are therefore significantly different at $p < 0.050$. 

<table>
<thead>
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<th>Level</th>
<th>Sq Mean</th>
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<tr>
<td>tissue culture treated polystyrene</td>
<td>A 5680029.8</td>
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<tr>
<td>polyester photocured film</td>
<td>B 1400450.1</td>
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<tr>
<td>non-tissue culture treated polystyrene</td>
<td>C 925786.0</td>
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</table>

Levels not connected by same letter are significantly different.